

## CLAIMS

1. A poly(arylene sulfide) having a bis(4-chlorophenyl) sulfide content lower than 50 ppm as  
5 determined by a gas chromatographic analysis.

2. A poly(arylene sulfide) having a ratio (MV2/MV1) of a melt viscosity value (MV2) of the poly(arylene sulfide) after a reaction with aminosilane to a melt  
10 viscosity value (MV1) before the reaction exceeding 2.0 as measured at a temperature of 310°C and a shear rate of 1,216 sec<sup>-1</sup>.

3. A poly(arylene sulfide) having a bis(4-chlorophenyl) sulfide content lower than 50 ppm as  
15 determined by a gas chromatographic analysis, a ratio (MV2/MV1) of a melt viscosity value (MV2) of the poly(arylene sulfide) after a reaction with aminosilane to a melt viscosity value (MV1) before the reaction exceeding  
20 2.0 as measured at a temperature of 310°C and a shear rate of 1,216 sec<sup>-1</sup>, and a yellow index of at most 10.

4. The poly(arylene sulfide) according to claim 3, wherein the bis(4-chlorophenyl) sulfide content is at most  
25 30 ppm, the ratio (MV2/MV1) is 2.1 to 3.0, and the yellow index is at most 7.

5. A process for producing a poly(arylene sulfide) by polymerizing a sulfur source and a dihalo-aromatic compound in an organic amide solvent, which comprises the respective steps of:

- 5 (1) a dehydration step of heating and reacting a mixture containing the organic amide solvent, an alkali metal hydrosulfide and an alkali metal hydroxide in a proportion of 0.95 to 1.05 mol per mol of the alkali metal hydrosulfide to discharge at least a part of a distillate  
10 containing water from the interior of the system containing the mixture to the exterior of the system,
- (2) a charging step of adding an alkali metal hydroxide and water to the mixture remaining in the system after the dehydration step, as needed, to control the total number of  
15 moles of the number of moles of an alkali metal hydroxide formed with hydrogen sulfide formed upon the dehydration, the number of moles of the alkali metal hydroxide added prior to the dehydration and the number of moles of the alkali metal hydroxide added after the dehydration, and the  
20 number of moles of water so as to amount to 1.00 to 1.09 per mol of a sulfur source (hereinafter referred to as "charged sulfur source") including the alkali metal hydrosulfide existing in the system after the dehydration and to 0.5 to 2.0 per mol of the charged sulfur source,  
25 respectively,
- (3) a first-stage polymerization step of adding a dihalo-aromatic compound to the mixture to subject the sulfur

source and the dihalo-aromatic compound to a polymerization reaction at a temperature of 170 to 270°C, thereby forming a prepolymer that a conversion of the dihalo-aromatic compound is 50 to 98%, and

5 (4) a second-stage polymerization step of controlling the amount of water in the reaction system after the first-stage polymerization step so as to bring about a state that water exists in a proportion of more than 2.0 mol, but up to 10 mol per mol of the charged sulfur source, and heating  
10 the reaction system to 245 to 290°C, thereby continuing the polymerization reaction.

6. The production process according to claim 5,  
wherein in the dehydration step, the alkali metal  
15 hydrosulfide and the alkali metal hydroxide are supplied as respective aqueous mixtures, and a mixture containing them is heated.

7. The production process according to claim 5,  
20 wherein in the dehydration step, the mixture is heated to a temperature of 100 to 250°C.

8. The production process according to claim 5,  
wherein in the charging step, the total number of moles of  
25 the alkali metal hydroxide is controlled so as to amount to 1.01 to 1.08 mol per mol of the sulfur source including the alkali metal hydrosulfide.

9. The production process according to claim 5,  
wherein in the charging step, the total number of moles of  
the alkali metal hydroxide is controlled so as to amount to  
1.015 to 1.075 mol per mol of the sulfur source including  
5 the alkali metal hydrosulfide.

10. The production process according to claim 5,  
wherein in the first-stage polymerization step, a  
prepolymer having a melt viscosity of 0.5 to 30 Pa·s as  
10 measured at a temperature of 310°C and a shear rate of  
1,216 sec<sup>-1</sup> is formed.

11. The production process according to claim 5,  
which further comprises, after the second-stage  
15 polymerization step,  
(5) a separation step of separating a polymer formed from a  
reaction mixture containing the polymer, and  
(6) a washing step of washing the polymer thus separated  
with an organic solvent.

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12. The production process according to claim 11,  
wherein in the separation step, the polymer is separated  
from the reaction mixture by sieving.

25 13. The production process according to claim 11,  
wherein the organic solvent used in the washing step is  
acetone.

14. The production process according to claim 5, which provides a poly(arylene sulfide) having a bis(4-chlorophenyl) sulfide content lower than 50 ppm as determined by a gas chromatographic analysis.

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15. The production process according to claim 5, which provides a poly(arylene sulfide) having a ratio (MV2/MV1) of a melt viscosity value (MV2) of the poly(arylene sulfide) after a reaction with aminosilane to  
10 a melt viscosity value (MV1) before the reaction exceeding 2.0 as measured at a temperature of 310°C and a shear rate of 1,216 sec<sup>-1</sup>.

16. The production process according to claim 5,  
15 which provides a poly(arylene sulfide) having a yellow index of at most 10.